

Notice of Allowability

Application No.

10/688,713

Applicant(s)

OBATA ET AL.

Examiner

Art Unit

Joni Hsu

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers filed October 17, 2003.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 2/9/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on February 9, 2004 was filed after the mailing date of the application on October 17, 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Allowable Subject Matter

3. Claims 1-14 are allowed.

The following is an examiner's statement of reasons for allowance:

4. The prior art taken singly or in combination do not teach or suggest a FIFO control unit operable to obtain from the cache unit additional information corresponding to a content to be reproduced, and to set storage areas for an audio data FIFO, a video data FIFO, and a decoded video data FIFO as recited in Claims 1, 9, and 14. Claims 1-6 and 10-13 depend from these claims, and therefore also contain allowable subject matter. The prior art also does not teach an information storing medium storing data for reproducing a content, the data comprising, header,

segment, and delimiter information; the header information including a maximum audio data size; and the segment information including a first frame number for each of the plurality of data segments as recited in Claim 7. Claim 8 depends from Claim 7, and therefore also contains allowable subject matter.

5. The closest prior art (Cheung US006538656B1) teaches a data processing apparatus for decoding and reproducing coded data (Col. 5, lines 29-32). Cheung teaches an audio data FIFO (2270, Figure 59), a video data FIFO (148, Figure 5), and a decoded video data FIFO (166) (Col. 92, line 52-Col. 93, line 19; Col. 12, lines 14-16; Col. 11, lines 65-66). Cheung teaches that the additional information corresponding to each content includes header information (Col. 7, lines 2-6); the header information includes a horizontal video size (Col. 16, lines 61-65), a vertical video size (Col. 44, lines 55-62), a video depth (Col. 17, line 66-Col. 18, line 5), a maximum video data size in the plurality of data segments (Col. 109, lines 40-42; Col. 19, lines 28-30). However, Cheung does not teach a cache unit operable to store cached information including a physical start address of each content stored on an information storing medium and additional information corresponding to each content, segment information, and that the header information includes a maximum audio data size, a FIFO control unit, and delimiter information.

6. Another prior art (Simionescu US006141728A) teaches a cache unit operable to store cached information including a physical start address of each content stored on an information storing medium and additional information corresponding to each content (Col. 21, lines 48-58).

However, Simionescu does not teach an audio data FIFO, a video data FIFO, and a decoded video data FIFO.

7. Another prior art (Peaslee US005371849A) teaches a FIFO control unit (62, 63, Figure 3) operable to obtain from the memory information corresponding to a content to be reproduced, and to set storage areas for the FIFOs on the basis of the information corresponding to the content to be reproduced (Col. 6, line 60-Col. 7, line 5; Col. 9, lines 47-65). However, Peaslee does not teach an audio data FIFO, a video data FIFO, and a decoded video data FIFO.

8. Another prior art (Kwan US006381282B1) teaches a video signal decoding arrangement (Col. 2, lines 35-37) with a video coder (52, Figure 2), an audio coder (54) (Col. 4, lines 45-49), header information (Col. 5, lines 49-52), a FIFO (Col. 6, lines 8-10), and delimiter code (Col. 10, lines 12-15). However, Kwan does not teach that the header and segment information include all the information as claimed by applicant.

9. Another prior art (Peng US006205429B1) teaches a video decoder (105, Figure 1; Col. 4, lines 16-18), an audio decoder (150; Col. 4, lines 27-34), and a FIFO (140; Col. 5, lines 51-53). teaches a standardized file format that bundles data into packets of information. Each packet contains a header portion and the audio data portion. The header portion contains parameters that the audio system uses to process and playback the audio data (Col. 1, lines 36-45), including a maximum audio data size (Col. 5, line 66-Col. 6, line 3). However, Peng does not teach that the header and segment information include all the information as claimed by applicant.

10. Another prior art (Gardere US006678332B1) teaches a method of seamless splicing of a first transport stream to a second transport stream to produce a spliced transport stream. The first transport stream includes video access units encoding video presentation units representing video frames, and audio packets including data of audio access units encoding audio presentation units representing segments of a first audio signal (Col. 3, lines 28-34). Gardere also teaches a MPEG decoder (Col. 11, lines 11-12), a FIFO (Col. 31, lines 53-55), a cache (Col. 8, lines 18-22), and each frame has a frame number (Col. 26, lines 40-57). However, Gardere does not teach that the header and segment information include all the information as claimed by applicant.

11. Another prior art (Hooper US005414455A) teaches that packet data is decoded and decompressed into frames, and the frames are converted to analog video and audio signals (Col. 9, lines 15-21). Hooper also teaches a FIFO (60, Figure 2, Col. 4, lines 41-48), a cache (Col. 10, lines 41-43), and packet headers (120, Figure 3, Col. 6, lines 13-15), and video segments including a predetermined number of frames (abstract). However, Hooper does not teach that the header and segment information include all the information as claimed by applicant.

12. Another prior art (Barton US006233389B1) teaches an MPEG decoder (Col. 4, lines 5-9), a video buffer (613, Figure 6, Col. 5, lines 56-58), an audio buffer (612, Figure 6), and a cache (Col. 4, lines 41-44). Barton teaches separating the MPEG stream into its video and audio components (Col. 2, lines 15-17). However, Barton does not teach a decoded video data FIFO, a FIFO control unit, and that the cache stores start addresses.

13. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Cheung (US006538656B1) teaches a transport processor including a transport recorder for storing portions of compressed data streams in memory and a playback circuit for reading the stored portions of the compressed data streams. The playback circuit includes a throttling mechanism and a hold mechanism to prevent overflow in video and audio buffers (Col. 2, lines 16-22).
2. Simionescu (US006141728A) teaches a cache unit operable to store cached information including a physical start address of each content stored on an information storing medium and additional information corresponding to each content (Col. 21, lines 48-58).
3. Peaslee (US005371849A) teaches a FIFO control unit (Col. 6, line 60-Col. 7, line 5; Col. 9, lines 47-65).

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4 Kwan (US006381282B1) teaches a video signal decoding arrangement for decoding a data stream into a series of images (Col. 2, lines 35-37).

5 Peng (US006205429B1) teaches a device for manipulating information in an audio decoder (Col. 1, lines 7-9).

6 Gardere (US006678332B1) teaches a method of seamless splicing of a first transport stream to a second transport stream to produce a spliced transport stream. The first transport stream includes video access units encoding video presentation units representing video frames, and audio packets including data of audio access units encoding audio presentation units representing segments of a first audio signal (Col. 3, lines 28-34).

7 Hooper (US005414455A) teaches that packet data is decoded and decompressed into frames, and the frames are converted to analog video and audio signals (Col. 9, lines 15-21).

8 Barton (US006233389B1) teaches a multimedia time warping system (Col. 1, lines 64-65) that separates the MPEG stream into video and audio components (Col. 2, lines 15-17) and decodes the MPEG stream (Col. 4, lines 5-9).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 571-272-7785. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH



Kee M. Tung
Primary Examiner